We claim:

1. A method of treating pulp according to which method wood material is supplied into a digester (2), the so-called brown stock is discharged from the digester to brown stock washing (8) and the washed pulp is treated in a delignification stage (10) whereby the pulp digestion and brown stock washing processes mainly employ counter-current washing in which clean wash liquid is brought to the end of the process and transferred counter-currently relative to the flow direction of the fiber suspension through several washing stages at least partly to the digester (2) and from there further to chemical recovery CR, **characterized** in that in order to lower the COD-level in the oxygen delignification stage (10),

a) a portion LI is separated before the process stage subsequent to the delignification stage (10) and the washer (12) of the delignification stage from the wash liquid/filtrate to be recycled counter-currently;

b) the portion LI of the filtrate is treated in a separation device (114, 214, 314, 414, 514) in order to produce two fractions CC and CD having different physical properties;

c) the fraction CC having a lower physical property is returned either substantially to the same point in the process from which the portion LI of the filtrate was extracted at stage (a), or to some other process stage in order to lower the COD-level in the oxygen delignification stage;

d) the fraction CD having a higher physical property is directed either to the flow passing to the chemical recovery CR, the digestion plant or as such to a point in the process in which the dry-solids, COD and /or alkali content of the liquid phase is at least as high as that of the fraction CD.

2. A method as claimed in claim 1, characterized in that the filtrate LI of stage a) is obtained from the flow passing from the digestion plant (2) to the chemical recovery CR and the fraction CD of stage d) is returned to the flow passing to the chemical recovery CR.

3. A method as claimed in claim 2, characterized in that the fraction CC of stage c) is returned either to the flow BSF passing from the brown stock washing (8) to the digester (2), or to be used as the wash liquid in the brown stock washer (8), in the washer (12) following the delignification stage (10), or in the washer (16) following the screen plant (6).

4. A method as claimed in claim 1, characterized in that the filtrate LI of stage a) is obtained from the filtrate flow passing to the brown stock washer (8) preceding the delignification stage (10).

5. A method as claimed in claim 4, characterized in that the fraction of stage c) is returned to the wash liquid flow passing to the brown stock washer (8) and the fraction of stage d) is returned either to the flow BSF passing from the brown stock washer (8) to the digester (2), or directly to the flow passing to the chemical recovery CR.

6. A method as claimed in claim 1, characterized in that at stage a) the filtrate LI to the separation device is taken from the circulation waters subsequent to the digester (2), the fraction CD of stage d) is passed to the liquid circulations of the digester (2) or directly to the chemical recovery CR, and the fraction CC of stage c) is returned to be used as the wash liquid in the brown stock washing (8) or in the wash (12) subsequent to the delignification stage (10).

7. A method as claimed in any of the preceding claims, characterized in that at least one of the washers (8, 12, 16) is a washer or a press from which at least either at least two filtrates (FC, FD) having different physical properties are extracted or to which at least two filtrates having different physical properties are introduced.

8. A method as claimed in claim 7, characterized in that the fraction of stage c) is returned to be used as the wash liquid in the washer or press in question with the wash liquid FC introduced thereto and having the lower physical property.

9. A method as claimed in claim 7, characterized in that the filtrate LI of stage a) is taken from at least one filtrate FC of the washer or press in question.

10. A method as claimed in claim 7, characterized in that the filtrate LI of stage a) is taken from at least one filtrate FC of the washer or press in question having the higher physical property.

11. A method as claimed in claim 1, characterized in that the separation device (114, 214, 314, 414, 514) is a membrane separator.

12. A method as claimed in claim 1, characterized in that the separation device is an evaporator (114, 214, 314, 414, 514), whereby the fraction having the lower physical property is condensate and the fraction having the higher physical property is concentrate.

13. A method as claimed in claim 1, characterized in that the volume of the fraction CC having the lower physical property returned at stage c) from the separation treatment is 6 m^3/adt at the most, about 1 – 5 m^3/adt, preferably 1 – 3.5 m^3/adt.

14. A method as claimed in claim 1, characterized in that the liquid to be treated in stage b) is white liquor flowing from the chemical recovery to the digestion plant (2).

15. A method as claimed in claim 1, characterized in that soap is separated from the fraction obtained from stage b) and having the higher dry solids content.

16. A method as claimed in claim 1, characterized in that pulp is further treated in the bleaching stages BL following the delignification so that at least part of the fraction CC to be returned at stage c) is passed to a washer or press of a bleaching stage.

17. A method as claimed in claim 16, characterized in that also at least a part of the wash liquids used in the bleaching BL is passed counter-currently up to the digestion plan (2).